

<b>Notice of Allowability</b>	Application No.	Applicant(s)
	09/977,115	LUI ET AL
	Examiner	Art Unit
	Phuongchau Ba Nguyen	2665

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1.  This communication is responsive to 9-30-5.
2.  The allowed claim(s) is/are 1-16,28,17-23,25-26; Renumbered as 1-26 respectively.
3.  Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a)  All
  - b)  Some\*
  - c)  None
  1.  Certified copies of the priority documents have been received.
  2.  Certified copies of the priority documents have been received in Application' No. \_\_\_\_\_.
  3.  Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.  
**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4.  A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5.  CORRECTED DRAWINGS ( as "replacement sheets") must be submitted.
  - (a)  including changes required by the Notice of Draftsperson's Patent Drawing Review ( PTO-948) attached
    - 1)  hereto or 2)  to Paper No./Mail Date \_\_\_\_\_.
  - (b)  including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6.  DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

#### Attachment(s)

1.  Notice of References Cited (PTO-892)
2.  Notice of Draftsperson's Patent Drawing Review (PTO-948)
3.  Information Disclosure Statements (PTO-1449 or PTO/SB/08),  
Paper No./Mail Date 2/25/2
4.  Examiner's Comment Regarding Requirement for Deposit  
of Biological Material
5.  Notice of Informal Patent Application (PTO-152)
6.  Interview Summary (PTO-413),  
Paper No./Mail Date 9-30-5
7.  Examiner's Amendment/Comment
8.  Examiner's Statement of Reasons for Allowance
9.  Other \_\_\_\_\_.

**EXAMINER'S AMENDMENT**

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.
  
2. Authorization for this examiner's amendment was given in a telephone interview with Mr. Marley on 9-30-5.
  
3. The application has been amended as follows:

**Claim 1, line 10,**

"an end station" had been changed to ---the end station---

**Claim 1, line 8,**

"and" had been deleted.

**Claim 1, line 11,**

---- wherein bridges of said second group are respectively arranged upstream and downstream of an intervening bridge of said first group in a common tree path and said bridges of said second group including means for encapsulating a received frame with a source address and a

destination address enabling transfer through the intervening bridge,  
wherein

(a) where a cross-link incident on a said downstream bridge is a  
segment on said alternate path, said transfer through the intervening  
bridge is in the downstream direction, and

(b) where a cross-link incident on said upstream bridge is a  
segment on said alternate path, said transfer through the intervening  
bridge is in the upstream direction--- had been inserted after the word  
“station”.

**Claim 17, line 8,**

“and” had been deleted.

**Claim 17, line 11,**

--- means for determining at each second group of bridges, if another  
bridge of said second group is directly connected thereto by a cross-link  
which is not a tree path; and

means for determining an alternate path further including means for  
examining valid cross-links for use as segments of an alternate path---  
had been inserted after the word “destination”.

**Claim 19, line 8,**

“and” had been deleted.

**Claim 19, line 10,**

--- (c) determining at each second group of bridges, if another bridge of said second group is directly connected thereto by a cross-link which is not a tree path; and  
(d) determining an alternate path further including means for examining valid cross-links for use as segments of an alternate path--- had been inserted after the word “cross-link”.

**Claims 24 and 27 had been canceled.**

**Claim 28, line 1,**

“27” had been changed to ---1---.

4. The following is an examiner’s statement of reasons for allowance:

Regarding claims 1-16, 28, the prior art fails to teach or suggest an apparatus for determining paths for forwarding frames among end stations in a system of interconnected local area networks, comprising of “wherein bridges of said second group are respectively arranged upstream and downstream of an intervening bridge of said first group in a common tree path and said bridges of said second group including means for encapsulating a received frame with a source address and a destination

address enabling transfer through the intervening bridge, wherein (a) where a cross-link incident on a said downstream bridge is a segment on said alternate path, said transfer through the intervening bridge is in the downstream direction, and (b) where a cross-link incident on said upstream bridge is a segment on said alternate path, said transfer through the intervening bridge is in the upstream direction," which is considered in combination with other limitations, as specified in independent claim 1.

Regarding claims 17-18, the prior art fails to teach or suggest an apparatus for determining a best path for forwarding a frame received at a bridge in a system comprised of a plurality of interconnected local area networks (LANS) each having a plurality of end stations, and a spanning tree incorporating a plurality of bridges of first and second groups for loop-free forwarding a frame from a source end station to a destination end station wherein said source and destination end stations may reside in different LANS, said bridges of said first and second groups having means for determining a tree path for loop-free forwarding of said frame; and "means for determining at each second group of bridges, if another bridge of said second group is directly connected thereto by a cross-link which is not a tree path; and means for determining an alternate path further including means for examining valid cross-links for use as segments of an alternate path," which is considered in combination with other limitations, as specified in the independent claim 17.

Regarding claims 19-23, 25-26, the prior art fails to teach a method for determining a path for forwarding a frame in a system having a plurality of end stations and bridges for Loop-free forwarding of a frame, said bridges being of first and second

groups, said first group having means for transferring a frame from an end station using a spanning tree bridge protocol which provides Loop-free frame forwarding and said second group of bridges have cross-links coupling bridges in different tree paths, comprising "(c) determining at each second group of bridges, if another bridge of said second group is directly connected thereto by a cross-link which is not a tree path; and (d) determining an alternate path further including means for examining valid cross-links for use as segments of an alternate path," which is considered in combination with other limitations, as specified in the independent claim 19.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Phuongchau Ba Nguyen whose telephone number is 571-272-3148. The examiner can normally be reached on Monday-Friday from 10:00 a.m. to 2:00 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Huy Vu can be reached on 571-272-3155. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Phuongchau Ba Nguyen  
Examiner  
Art Unit 2665

DUCHO  
PRIMARY EXAMINER



10-3-05